



Real Estate & Its Relation to the Financial Crisis

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**“Demography
is
destiny.”**



THE AMERICAN BAILOUT AND CAPITAL MARKETS IN EARLY 2010

•**Macprudential Policy:** Banks tend to copy the lending practices of other banks. As such, they become exposed to similar risks by making very similar loans. If all banks operate similarly, risks increase as exposure increases across a wide capital market. Since banks lend to each other, the crisis has shown that risks can also spread throughout the financial system much like a virus, and can be as difficult to diagnosis and cure.

•Some possibilities are for different types of lending to have different capital requirements (as risks are also uneven). Additionally, systemic problems could arise if capital requirements are not properly matched between the long-lived nature of its asset relative to the funding. Both reports agree that systemically important banks, those "too big to fail", should be required to hold extra capital as they also hold greater risk to society.

•The difficulty of macroprudential policy however is the ability of regulators to both understand the market forces at work, as well as the political pressure that they will face these same regulators in both boom and bust times. A poorly designed policy set could end up being worse than no policy at all.

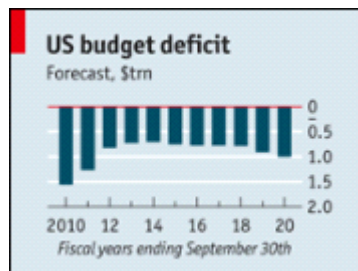


- **Megabanks in the USA:** At the end of 2009, the American megabanks were scrambling to repay their share of the \$700 billion in TARP funds (Troubled Asset Relief Program). A report from the TARP Special Inspector General's Office noted that American taxpayers stood to make a profit on these loans to the megabanks. However, there is still a lack of fundamental and meaningful reform to the banking industry⁴. The program has as yet been insufficient to convince banks to alter their executive compensation practices, jumpstart lending, or convince Wall Street that there's no such thing as "too big to fail". Lending continues to decrease (as of January 2010).
- The cost of the TARP program to American taxpayers will likely be less than 1% of GDP⁶, while previous systemic financial crises have cost 13% on average (International Monetary Fund). The unexpectedly low cost of the bail-out is not just limited to the United States. Officials around the world are beginning to believe that the cost will be much smaller than past crises. Most of the final losses from the TARP program will be concentrated on the automotive industry bailout, their financing arms, AIG, and subsidies to homeowners.
- Unfortunately, despite this rosy prognosis, lending continues to be anemic. Both Fannie Mae and Freddie Mac, the two USA government sponsored enterprises that hold half of American residential mortgages, look much worse. The total cost to these enterprises may total \$330 to \$440 billion, or 2% to 3% of pre-crash GDP. Additionally, the effect of the financial crisis on government revenue, and hence government debt as it struggles to regain its economic feet, is not part of this calculation.
- In general, the United States and many other countries appeared to follow what the IMF and other policy setters suggest as the "best practices". There was a rapid application of government guarantees, ending the panic more or less, targeted bank recapitalization to restore solvency, general transparency regarding banks health, helping restore investor confidence and enabled them to raise private capital. The long term picture is still unclear as the extent of effects on the economy, how quickly the economic landscape improves, the amount of bad debt still unrealized, the ultimate cost of bad regulation or inefficient stimulus, and the timing of the return of investor confidence (or at least the timing of the removal of less than fully rational fear) is still uncertain, but things look promising.



EXIT STRATEGIES FOR THE WORLD FINANCIAL CRISIS

- *The United States Budget Deficit:* The GDP in the United States has returned to positive territory two quarters in a row, which when added to the slightly improving unemployment figures and equity market strengthening do reasonably support that the country is working its way out of the crisis. These factors have proven to be the lead indicators of recovery based on a comparison of other financial crises throughout world economic history.
- Despite this, the United States forecast budget deficits remains worryingly high. Especially troubling is the expectation that budget deficits will fall until 2018, at 3.6% of GDP, and then start to rise again⁸.



- *How and When to Withdraw World Economic Stimulus:* The world economy has had a vast injection of cash stimulus, central banks have cut interest rates to the bone, and quantitative easing has been employed in some of the largest world economies⁹.
- Budget deficits have risen to an average of around 9% of GDP, and public debt has shot upwards. This may not be surprising and was likely required, but does leave little fiscal room for maneuvering in some countries (Greece, Portugal and Spain are good examples).



Regarding timing, policy makers should avoid making strong moves too soon. It is safer to allow stimulus and cheap money to run a bit longer than the risk of killing the fragile recovery by pulling back support too much and too soon. As such, some budgetary difficulties and inflation are likely with a cautionary approach to weaning the public off of fiscal stimulus. Emerging markets where the recovery is more clear face an easier decision, as do rich countries that did not suffer greatly from the crisis. Fiscal tightening has and should be moved rather quickly in these countries where the risk is minimal (Australia, Israel Norway and China have all begun this tightening and Brazil, Mexico and India have plans to cut their deficits this year).

In some big rich economies where the crisis hit harder the unwinding has been and should be slower as the growth and recovery is more fragile. Emergency liquidity facilities are being shut down, the Federal Reserve closed 5 of 7 crisis lending windows on February 1, 2010, and the European Central Bank has stopped lending banks unlimited 12 month funds. Additionally, currency swap lines between central banks have been closed down with quantitative easing also be slowed down with the United States to probably stop its purchase of mortgage-backed securities in April 2010 and the Bank of England stating that it would buy no more gilts on February 4th 2010.



- Based on these factors, there are two basic schools of thought. The dominant one espoused by the IMF and G7 finance ministers feels that when the risks are considered, it is generally too soon to tighten budgets in 2010. The smaller second group argues, Keynesian deficit spending has played out its benefit already and that a serious attempt to tighten deficits would raise consumer confidence which would in turn counter the drag from the lesser government spending. The European Central Bank (and British conservatives) espoused this plan as they tend to want faster fiscal stability in the euro area despite the somewhat higher risk that would entail. This author generally agrees with the first group, excepting those European countries further from the center of the crisis. At most, any fiscal tightening should be modest for the still fragile economies to forestall a large change in consumer confidence and bond yield adjustment.
- This does tend to suggest where fiscal tightening should begin, if not exactly when. Small open economies (like Greece or Ireland) gain relatively little from looser fiscal policy as a great deal of its effect spills overseas, and they will suffer more with a drop in investor confidence. Countries with heavy debt (Italy), those whose tax base has been severely damaged (Ireland and Spain), and those with very large starting deficits (Britain) and those that took a major hit to their long term prospects (Spain again) should certainly be more concerned with drops in investor confidence than those with smaller deficits (Germany), better demographics (United States), or a reserve currency (United States again). Because of wide disparity in underlying economic and fiscal positions and prospects, the timing and optimal mix of fiscal belt tightening will and should vary considerably.
- Eventually though, all big rich economies will be forced to prudently cut their deficits for a prolonged period. The amount of fiscal tightening that is appropriate will depend on several factors such as the optimal debt ratio, investor perceptions, consumer confidence levels, changes in worldwide security levels over time, the size of their current deficits, how fast they are currently growing, and what interest rates they face. Higher debt burdens lower long term growth prospects.



- Stabilizing debt ratios of the big economies at 2014 forecast levels will require an average improvement of about 4% of GDP in their primary budget balances (revenue minus spending, excluding interest payments). To bring the debt to GDP ratio back to 60% would likely require an improvement closer to 8% of GDP. However, there is some doubt that a 60% ratio is required in today's financial landscape and the negative effect of higher ratios seems to gather steam after 100% (hence, a decrease to leave room for maneuvering in the face of future economic shocks is certainly prudent but a decrease back to 60% is probably not necessary in most rich countries). In recent past decades, 10 rich countries have improved their budget balances by over 10% of GDP in short order, but so many countries attempting similar improvement may make this situation harder to achieve in the present day. Additionally, in these past examples, these large changes were not performed when interest rates were already near zero. This time it will be harder. The likely blend of monetary and fiscal policy will have to contend that there is very little room for cheaper money in their prescriptions.
- Carefully considered budgetary tightening, allowing central bankers to step up rates from their current near zero positions is a prudent move. Those countries that have employed quantitative easing now have two methods by which they can take modest tightening measures, short term policy rates and the size of their balance sheets.



- Public-sector Finance:* A side effect of the recovery from the world financial crisis is a vast rise in government deficits¹⁰. Spending cuts will and should be the preferred method of tackling this problem but increases in tax rates will also surely be needed. Coupling this with the effects of deteriorating demographic situations for much of the world (a decrease in the worker base will be a limit to economic growth in many countries over the coming decades), and the need for tax increases will be a surety, with the only question being when and how much. The economic consequences of raising taxes will vary greatly based on the scale of the increases, how efficiently it's performed and what sectors of the population base is most affected. The size and structure of taxation varies greatly among advanced economies and their emerging counterparts. Because of this, and the certainty of higher taxes in many countries over the coming decades, a comparison of taxation methodology can be a useful exercise.



On top of the world

Government taxation, 2007

	Advanced economies										BRICs			
	Australia	Britain	Canada	France	Germany	Italy	Japan*	South Korea	United States	Brazil	China*	India	Russia	
Total revenue ¹ , % GDP	35.0	41.8	41.4	49.6	43.8	46.4	34.5	33.6	33.7	34.8	18.1	22.3	47.7	
Total tax, % GDP	29.5	37.7	34.8	44.7	40.4	43.0	28.2	28.7	28.0	32.3	16.4	18.9	33.2	
Total tax, \$bn ²	268.5	1,055.6	496.7	1,161.2	1,344.6	910.5	1,230.2	301.1	3,941.7	430.7	435.0	207.8	429.7	
Structure, % of total tax														
Income and capital**	59.2	37.8	49.9	23.4	30.9	34.2	35.4	37.6 ¹	48.3	32.3 ¹	28.4 ¹	47.7 ¹	26.0	
people	37.5	28.7	36.2	16.7	23.5	26.7	18.5	19.6 ¹	37.5	no	7.4 ¹	17.8 ¹	no	
companies	21.7	9.1	12.4	6.6	8.4	7.5	17.0 ¹	17.9 ¹	10.8	no	21.0 ¹	30.7 ¹	no	
Employment	4.5	nil	1.9	2.7	nil	nil	nil	nil ¹	nil	6.0 ¹	nil ¹	nil ¹	9.5	
Property	9.1	12.0	9.7	10.2	2.1	1.9	9.1	4.6 ¹	10.9	0.1 ¹	0.9 ¹	0.1 ¹	nil	
Goods and services**	25.4	28.1	22.4	24.1	26.2	28.7	18.8	30.3 ¹	15.8	25.3 ¹	64.9 ¹	34.1 ¹	24.2	
consumption	13.2	17.0	13.7	15.7	17.0	14.1	8.2	20.7 ¹	7.6	no	49.0 ¹	0.2 ¹	no	
excise	7.4	8.5	4.4	4.5	6.5	4.8	7.4	9.6 ¹	3.5	no	15.3 ¹	23.8 ¹	no	
Other	1.8	nil	1.0	nil	nil	4.4	nil	9.4 ¹	0.7	11.5 ¹	5.8 ¹	18.0 ¹	22.0	
Social contributions	nil	22.0	15.0	40.2	40.8	30.8	35.6	18.3 ¹	24.5	24.9 ¹	nil ¹	0.2 ¹	18.3	

Sources: OECD; IMF; OECD; National statistics offices

*2006 data

¹Taxation plus other government income

¹At market prices

¹Sub-categories are not exhaustive

¹Central government only



- Which of these is combination is more effective for economic growth? Theoretically, expenditure taxes are better than income taxes because they do not have a negative impact on savings. Flat tax rates on a broad base are less distortive than high marginal rates on a small base. Taxes on long live and immobile items like real estate tend to be less distortive than taxes on mobile economic units like firms. A flat rate on final goods is less distortive than many excise taxes as it affects spending decisions less. This is supported by a study performed by Jens Arnold of the OECD. He concluded that property taxes followed by consumption taxes were the least damaging to growth (the study was of 21 rich countries over the 1970 to 2004 period). Income taxes (especially on firms) were the least friendly. As such, a significant savings in GDP might be accomplished with shifting the way taxes are collected. The United States tax system stands out again as one of the least efficient by these measures, despite the ratio to GDP being one of the lowest of the rich western economies.



REAL ESTATE MARKETS

- The worldwide slump in real estate prices, although lagging the world recovery somewhat, has or is threatening to enter positive territory again. Housing prices increased in 6 countries up to the end of 2009, and even in the United States, housing prices have wobbled across 2009 with little actual change in average home prices between February of 2009 and February 2010.
- The markets are now stabilizing and it appears that the world housing bubble has or is corrected itself. A study of the ratio of rents to long run average home prices was performed by the Economist to determine what markets had generally erased the effect of the bubble. The analysis was much like a stock p/e ratio and focused their long run averages. Housing shares are considered pricey if they are above their long run averages*.
- Because housing decisions are not as income sensitive as equity markets, this type of analysis is really just a general yardstick. Additionally, this study does not take into account changes in real interest rates, which would cause some markets to appear over priced when in fact there was just an underlying financial change. Additionally, this study is sensitive to have far back the underlying data goes. However, it is an interesting measure and the broad statistics may prove a useful point for further analysis.



The Economist house-price indicators

% change

	Latest	Q3 2008	1997-2009*	Under(-)/over(+)
	on a year earlier			valued†
Hong Kong	18.9	18.8	300	+627.9
China	8.0	9.3	na	+2.2
Australia	6.2	1.4	181	+50.0
South Africa	4.0	2.5	418	na
Switzerland	4.1	3.7	28	-9.0
Britain	2.7	-10.4	17%	+28.8
New Zealand	1.0	6.7	103	na
Sweden	0.4	1.8	152	+54.7
Canada	-2.1	1.8	65	+20.6
Germany	-3.9	-0.5	na	-15.2
Japan	-4.0	-1.8	-36	-33.7
United States (FHFA)	-4.1	-3.9	7%	+14.0
Italy	-4.1	2.7	96	+15.0
United States (Case-Shiller national index)	-6.4	-1.7	98	+5.3
Netherlands	-7.1	na	67	+21.2
France	-8.0	0.8	132	+39.0
Spain	-8.0	0.4	167	+55.1
United States (Case-Shiller national index)	-8.9	-16.4	na	-8.1
Singapore	-11.0	8.3	-4	na
Ireland	-13.9	-10.0	159	+29.0
Denmark	-16.4	-4.6	89	+18.4

* Or most recent available figure. † Against long-run average of price-to-rents ratio

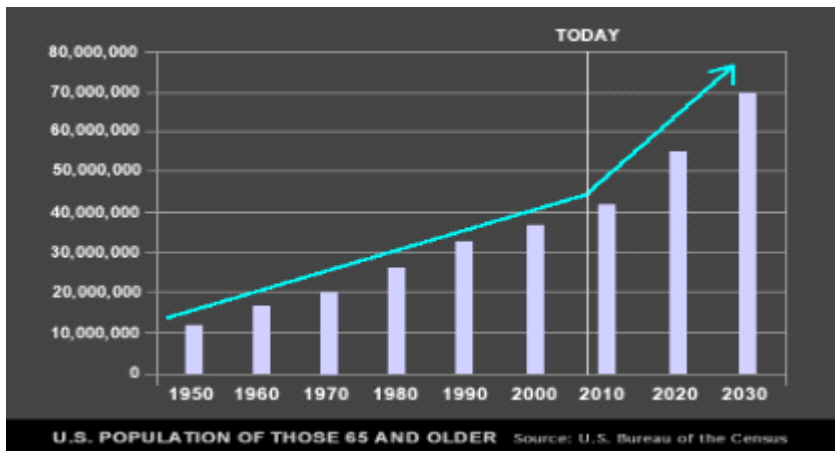
Sources: ABS; ESBIE; Hyogo; Japan Real Estate Institute; Nationalist; Nomisma; NIM; FHFA; Quantile Value; Standard & Poor's; Bureau of Economic Analysis; National Bureau of Economic Research; Housing Research; government offices; Derivatives

Interactive: Compare countries' housing data over time at economist.com/houseprices



LONG TERM ECONOMIC TRENDS
AGING POPULATIONS, SOCIAL SERVICES, COSTS, INFLATION AND ENERGY

- In the face of the current economic crisis it is easy to overlook some long-term factors that will surely affect the major economies around the world over the coming decades. Many of the world's largest economies have aging populations, commonly due to the rapid increase in births after World War II (the baby boom).
- As this large group retires from the work force over the coming 20 to 25 or so years, the working percentage of these countries will significantly decrease. This will negatively impact GDP in these nations. This will also be coupled with an increase in the cost of social services, magnifying the downward affect of a smaller workforce. The most likely response to this downturn will be a higher taxes to fund increased need for social services, and governmental / social emphasis on keeping the population as healthy and productive as possible for as long as possible. This will very likely include decreasing public services and increasing typical retirement age to minimize both of the negative factors of greater social costs and a smaller workforce. Immigration supporting a younger workforce can also help offset this factor.
- These somewhat disturbing figures are reflected in the labor statistics around the world. For instance, in Europe there are 4.4 persons of working age per one person over the age of 65. By 2025 this will decrease to 3.1 (29.5% drop), and by 2050 this is forecast to decrease to 2.1 (a 52% decrease). This author is a bit skeptical on the magnitude of that forecast change but it is undeniable that the work force will greatly decrease over the coming several decades. This factor, exacerbated by a growing social services burden will change the economic landscape of the world.¹⁴





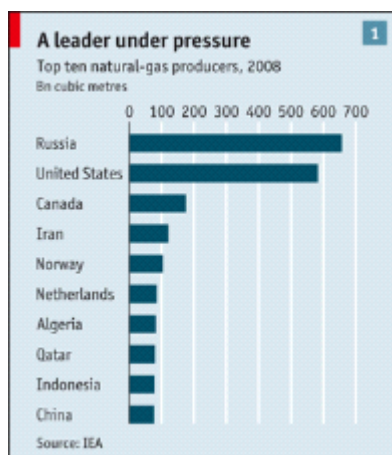
- By 2030 the UN predicts that by 2030 people sixty-five years of age or older will account for 23% of the adult population, compared to 16% in 2006. This huge population shift will expose the world's financial retirement systems to a stress test for which there is no precedent.
- The world will need to boost savings rates, control social services costs and have the elderly populations work additional years, at least part time, to help reduce the additional burden on the traditional working age group, who will surely see a higher tax burden as well. Other possibilities are rescinding benefits to the most wealthy, private accounts, rationing, increased productivity, technology increase, mandatory higher retirement ages, cuts in promised benefits and more favorable immigration policy. Some of these possibilities are decidedly unpopular and others will have only a negligible positive effect but the problems facing the world economy due to this demographic shift will be large and uncomfortable no matter which direction an individual country decides to move.



- *Energy Need, Oil, Natural Gas and the Environment:* Oil prices have been shifting upward since 2002. Increases in global consumption have progressively shrunk the buffer between excess capacity and demand to a far too thin layer. As it currently stands, any even moderate disruption in supply can cause wild price shocks and spikes in prices. This problem will only be exacerbated by China and India's growing demand for oil as their economies strengthen and put more automobiles on the road. This is also true for the remainder of the emerging economies of the world. Expected increases in demand from natural economic growth in these regions will utterly remove any remaining buffer between capacity and demand, in the absence of very significant production growth. This rapid growth has not been evident and the oil producing parts of the world and major oil companies had better consider the consequences of not meeting the rising demand needs. However, alternatives to oil are more readily available than most people think.
- Historically, despite predictions that the world was running out of oil, verifiable recoverable petroleum reserves belowground grew in line with oil consumption between 1986 and 2006¹¹. This was mostly due to technology improvement that improved yields from existing reservoirs. Drilling and well completion fell behind as countries with large reserves (mostly OPEC) did not reinvest enough capital in wells and crude-oil processing facilities to meet the rising demand. As such, oil consumption and reserves rose by 1.6% per year from 1986 to 2006, crude-oil production capacity grew by only 0.8% per year.



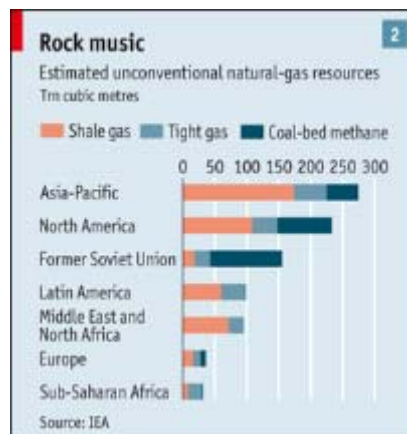
- Most oil is consumed by automobiles, fleets, factories, and homes. The consumption patterns of these sectors can't change quickly but they can, do, and even are changing. The United States currently consumes about 25% of the world oil. A major shift, say a vast increase in the use of natural gas (starting with trucking fleets), or a shift from petroleum to electric (powered by off peak non-petroleum sources), smaller, natural gas and/or hybrid automotive sources could very significantly decrease American reliance on petroleum.
- Compared to oil, the common use of natural gas is fairly new. In recent decades natural gas production has surged into a major source of energy as many of the technological hurdles have been passed. Additionally, it is a relatively clean source of energy and in today's environment this makes it particularly attractive. In 2005, natural gas supplied nearly 60% as much energy as oil¹¹. In contrast to oil, natural gas used in the United States is almost sole produced in the United States, and many reserves are located through the rich developed world. Despite this, natural gas is still somewhat difficult to store and transport. The role of natural gas is increasing and this trend is very likely to continue.



- *The Economics of Natural Gas:* Much of the prior discussion regarded natural gas technology prior to 2006. The potential for natural gas as a major source of energy is growing even faster than had been previously forecast. Some countries, the United States included, may be able to dream of a day of energy self-sufficiency based on natural gas beneath their feet. Geopolitics is certainly changing. A technique called "fracing" has unlocked vast tracts of gas-bearing shale around the world (especially in the United States). Production costs have halved with new technology making it cheaper than even some more conventional sources. The world benefit is that at some point, as the cost of oil increases or continues to destabilize, there will be (or at least could be) an ever increasing shift to natural gas. One authority on the subject states that conservatively the supplies will last 100 years, and that is probably too conservative.
- Russia was the world's largest natural gas producer in 2009 and the United States will probably overtake it. Prices in North America have fallen over 60% between 2008 and 2010. Because shale rock is common around the world, there is no reason to assume that the success in the United States could not be duplicated elsewhere. The amount of available natural gas estimate to be available worldwide is staggeringly immense. It will take at least a decade for production in Europe to make a major difference and changes in infrastructure will need to accompany the change in energy sources, but the potential is comfortingly massive.



- As such, it would be remiss in any analysis of the current world financial crisis to gloss over the historical lessons learned from similar crises throughout history. An excellent and timely piece on this subject was a paper written by Carmen M. Reinhart, University of Maryland, and Kenneth S. Rogoff, Harvard University, titled *The Aftermath of the Financial Crisis*. The major concepts will be discussed in depth and charts reproduced herein as this is the likely economic environment in which real estate and real estate related instruments will perform in over the coming years.



First: Asset market collapses are deep and prolonged. Real housing price declines average 35 percent stretched out over six years, while equity price collapses average 55 percent over a downturn of about three and a half years.

Second: The aftermath of banking crises is associated with profound declines in output and employment. The unemployment rate raises an average of 7 percentage points over the down phase of the cycle, which lasts on average over four years. Output falls (from peak to trough) an average of over 9 percent in GDP, although the duration of the downturn, averaging roughly two years, is considerably shorter than for unemployment.

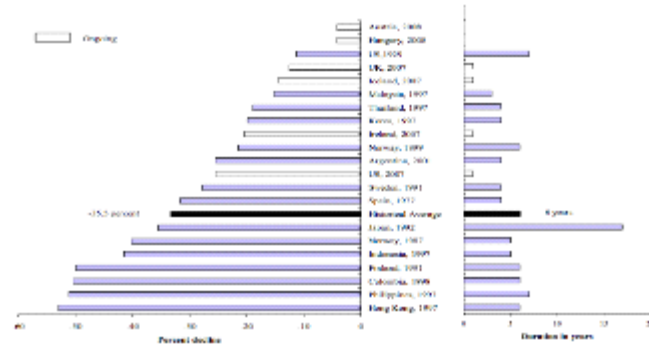
Third: The real value of government debt tends to explode, rising an average of 86 percent in the major post-World War II episodes. The main cause of debt explosions is not the widely cited costs of bailing out and recapitalizing the banking system. Bailout costs are difficult to measure, and there is considerable divergence among estimates from competing studies. But even upper-bound estimates pale next to actual measured rises in public debt. The big drivers of debt increases are the inevitable collapse in tax revenues that governments suffer in the wake of deep and prolonged output contractions, as well as often ambitious counter-cyclical fiscal policies aimed at mitigating the downturn.





Figure 1

Fast and Ongoing Real Estate Price Cycles and Banking Crises:
Peak-to-trough Price Declines (left panel) and Years Duration of Downturn (right panel)



Sources: Reinhart and Rogoff (2009b) and sources cited therein.

Notes: Each banking crisis episode is identified by country and the beginning year of the crisis. Only major (systemic) banking crisis episodes are included, subject to data limitations. The historical average reported does not include ongoing crisis episodes. Consumer price indices are used to deflate nominal house prices.



- This illustration shows that the average down cycle in real estate values (sale prices) shows a decline from peak to trough of 35.5%. This decline will take 5 to 6 years to reach the bottom (five if you exclude Japan from the survey, where the decline was unusually long at 17 years). Taking a close look at the United States shows an average decrease from the average of 2006 to February of 2010 at 21.5%. NAR (National Association of Realtor data)¹⁷ shows a 0.8% decline in average home prices from 2006 to 2007, and a 8.76% decrease from 2007 to 2008, and a 13.3% decrease from 2008 to February 2010.² As such, it appears that the down turn for real estate began in 2006. Another survey, the Case-Shiller national index showed somewhat different results as noted in the above chart. As such, we are currently about 3 ½ half years into the real estate market decline and prices have wobble around in 2009 but have remained almost exactly unchanged from February 2009 to February 2010 (up less than 1/10th of a %). However, the most recent 3 months have shown continued small decreases.



- Real estate stabilization on average for the United States is generally forecast to begin (hit bottom) late in 2010 or early in 2011 (according to Kenneth Rosen, Fisher Center for Real Estate and Urban Economics, Berkley) and then begin appreciating at pre-bubble rates of 1-2% per year. This author tends to agree as real estate prices have historically recovered 0 to 2 years after GDP begins to increase (the lead indicator of most historical recoveries). GDP began to recover in 3rd quarter 2009 which makes the present to mid 2010 the likely range for the beginning of the recovery. So far, this indicator is inconclusive in determining if the current financial crisis is recovering ahead of schedule, or on schedule, with some slight indication (due to the wobbling nature of prices over the past year) of a slightly faster than historical precedent recovery.



Figure 2



Equity price declines (stocks, bonds and related instruments) that accompany banking crises are far steeper than housing price declines, if somewhat shorter lived. The shorter duration of the downturn when compared with real estate prices is consistent with the observation that equity prices are far less inertial. The average historical decline in equity prices is 55.9 percent, with the downturn phase of the cycle lasting 3.4 years on average. The above chart shows equity declines for the United States to be above 40% in the first year of the down cycle. The following chart will show equity market prices over the 1999 to 2008 period for a longer view of the relevant trends.

Sources: Board of Governors (2008) and various other sources. Note: Each banking crisis episode is identified by country and the beginning year of the crisis. Only major (systemic) banking crises episodes are included in this table. The historical averages reported here are made ongoing crisis episodes. Consumer price indices are used to deflate nominal equity prices.



The above data tends to suggest that the downturn in the equity markets actually began in mid to late 2007. As such, this data tends to suggest that after approximately 18 months of the down cycle the markets began to recover and 2 and ½ years into it approximately half of the 40% drop has been recovered. It is also interesting to note that the United States equity markets shown here are at about their 2005 mark. This factor also tends to suggest a faster than typical recovery in this financial crisis, at least from the standpoint of equity.



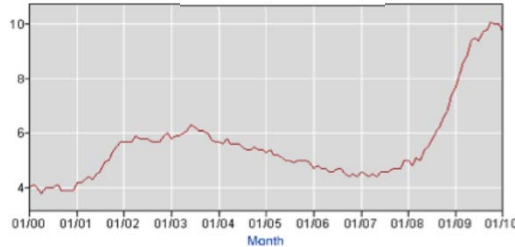
Figure 3

Post-Unemployment Cycles and Banking Crises: Tough-to-peak
Percent Increase in the Unemployment Rate (left panel) and Years Duration of Downturn (right panel)



On average based on historical crisis precedent, unemployment rises for almost five years, with an increase in the unemployment rate of about 7 percentage points.

Source: OECD, IMF, Historical Statistics of the United States (HSHS), various country sources, and authors' calculations.
Note: Each banking crisis episode is identified by country and the beginning year of the crisis. Only major (systemic) banking crisis episodes are included, subject to data limitations. The historical average reported does not include ongoing crisis episodes.



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2000	4.0	4.1	4.0	3.8	4.0	4.0	4.0	4.1	3.9	3.9	3.9	3.9	
2001	4.2	4.2	4.3	4.4	4.3	4.5	4.6	4.9	5.0	5.3	5.5	5.7	
2002	5.7	5.7	5.7	5.9	5.8	5.8	5.8	5.7	5.7	5.7	5.9	6.0	
2003	5.8	5.9	5.9	6.0	6.1	6.3	6.2	6.1	6.1	6.0	5.8	5.7	
2004	5.7	5.6	5.8	5.6	5.6	5.6	5.5	5.4	5.4	5.5	5.4	5.4	
2005	5.3	5.4	5.2	5.2	5.1	5.0	5.0	4.9	5.0	5.0	5.0	4.9	
2006	4.7	4.8	4.7	4.7	4.6	4.6	4.7	4.7	4.5	4.4	4.5	4.4	
2007	4.6	4.5	4.4	4.5	4.4	4.6	4.6	4.6	4.7	4.7	4.7	5.0	
2008	5.0	4.8	5.1	5.0	5.4	5.5	5.8	6.1	6.2	6.6	6.9	7.4	
2009	7.7	8.2	8.6	8.9	9.4	9.5	9.4	9.7	9.8	10.1	10.0	10.0	
2010	9.7												

BUREAU OF LABOR STATISTICS



Figure 4
Post-Boom Real Per Capita GDP Decline and Banking Crises: Peak-to-Trough
Percent Decline in Real GDP (left panel) and Years Duration of Decline (right panel)

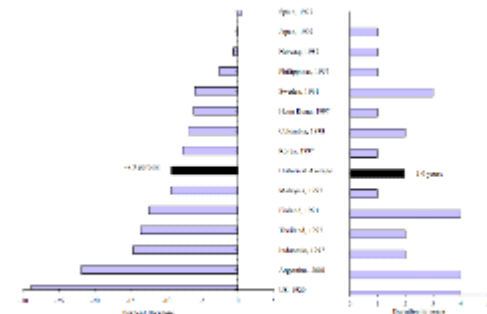


Figure 4 looks at the cycles in real per capita GDP around banking crises. The average magnitude of the decline is surprisingly large at 9.3 percent.

Source: International Monetary Database (IMD), Historical Statistics of the United States (HSUS), and authors' calculations.
Note: Each banking crisis episode is identified by country and the beginning year of the crisis. Only major (systemic) banking crises episodes are included, subject to data availability. The historical average reported does not include currency crises episodes. Total GDP is millions of 1990 US\$ (converted at Gary Klintworth 1994) divided by mid-year population.

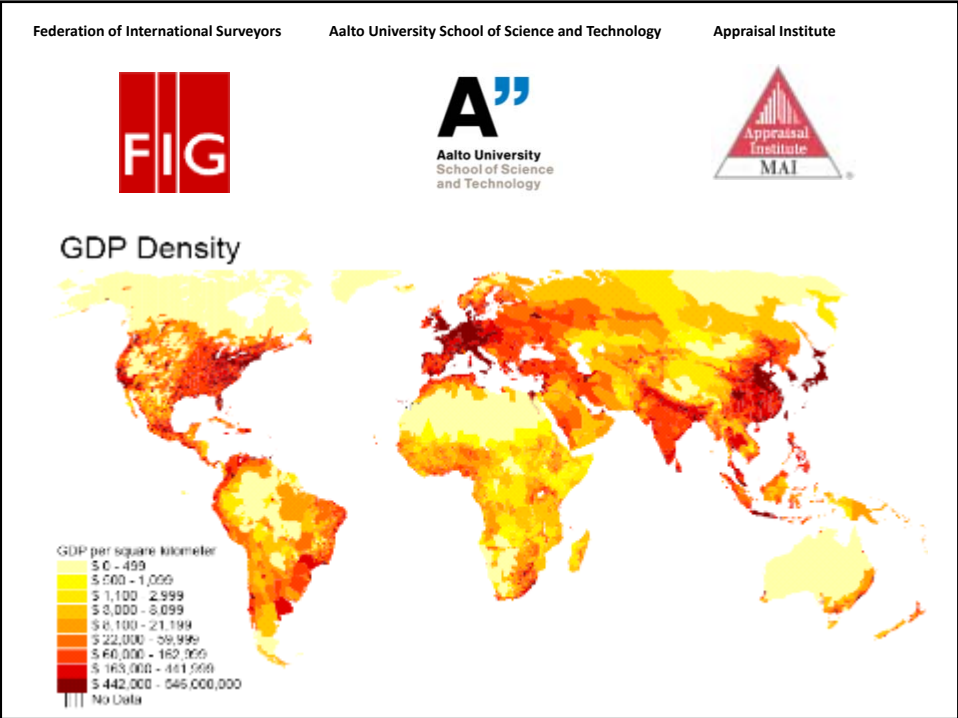
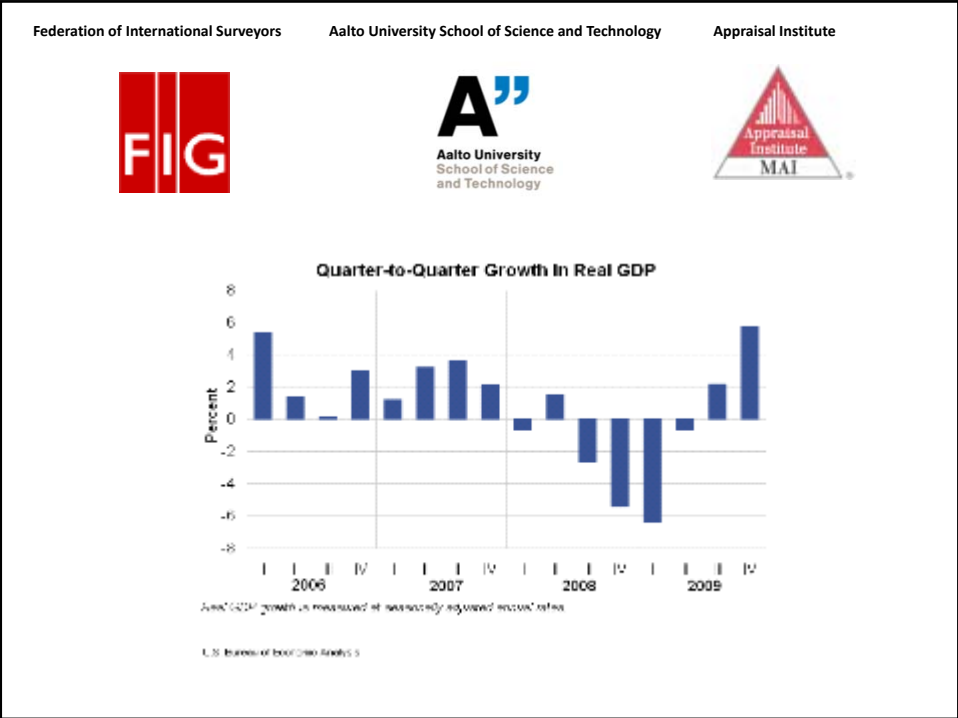




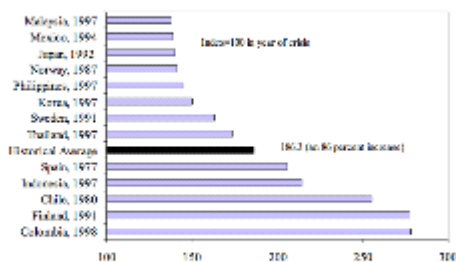
Figure 5 shows the rise in real government debt in the three years following a banking crisis. The deterioration in government finances is larger than most would imagine, with an average debt rise of over 86 percent.

The characteristic huge buildups in government debt are driven mainly by sharp falloffs in tax revenue and, in many cases, big surges in government spending to fight the recession. The much ballyhooed bank bailout costs are, in several cases, only a relatively minor contributor to post-financial crisis debt burdens.

Current performance in the United States shows an increase in total debt outstanding of approximately 25% from 2007 to 3rd quarter 2009. This is well below the historical average for world financial crisis.

Figure 5

Cumulative increase in real public debt in the three years following the banking crisis



Source: Reinhart and Rogoff (2008) and various cited sources.
 Note: Each banking crisis episode is identified by country and the beginning year of the crisis. Only major (systemic) banking crises episodes are included, subject to data limitations. The historical average reported does not include ongoing crisis episodes, which are tracked separately, as these crises begin in 2007 in Latin and J&M stock conversions have less than three years after the beginning of the banking crisis.



CONCLUSION

- Slow growth from this crisis point can be expected as long as the more fragile economies, mainly in the rich countries, continue to be careful. This will continue for a decade or so until the effects of demographic shifts begin to have costly impacts for many countries, particularly in Europe, the developed world, and China. The developing world will be largely spared these problems due to a much lower average age. Even countries with less demographic problems will need severe adjustments to care for their growing elderly populations.
- With the general fall of centrally planned economies around the world a massive amount of low cost labor has saturated the market, depressing the cost of goods as wages to these workers slowly increase. As these developing countries strengthen economically, wages and costs will increase, returning more inflationary pressure to the globe. These effects are already underway and will intensify over the coming decades.
- Energy concerns are growing due to a narrow spread between demand for oil and current capacity. However, technology improvements in recent years, particularly in natural gas should ease energy concerns over the coming decades as the geopolitics of energy readjust to this abundant resource spread across the globe. Adjustments and retooling will be needed to take full advantage of these reserves. This and other energy related technological improvements should ease world economies already being squeezed from several other fronts. At a very minimum they will limit the exposure to price spikes as a more rapid shift to this energy source will be hastened if oil becomes too expensive or volatile.
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Conclusion Continued

- The buyer / borrowing pool in real estate transactions is currently constrained to a fraction of its normal level due to limited availability of credit. Now with the world economic recovery underway in most countries, it appears that the real estate sector, commonly considered the cause of, or at the very least a major factor contributing to the crisis, has recovered slower than most other major sectors of the economy. The real estate sector has not fully stabilized and is the only economic sector in the United States that still shows some worrying signs of continued slippage. Unemployment is worryingly high as well but it has held steady or decreased each month since its peak 5 months ago.
- An examination of the aftermath of severe financial crises shows deep and lasting effects on asset prices, output and employment. Unemployment rises and housing price declines extend out for five and six years, respectively. On the encouraging side, output declines (GDP) last only two years on average. Recoveries are almost invariably accompanied by massive increases in government debt. This financial crisis followed the expected patten of past crashes very well with one distinction. It appears that this crisis was generally mild compared with historical crisis averages. This is likely due to several factors, better technology and understanding of the market, consistent and coordinated moves by central bankers around the world, safe and generally adequate response to the challenges from most major governments, and little or no delay in getting government guarantees and stimulus programs in place. The world response turned what could have been a world depression into a manageable recession.